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ABSTRACT

Research on crime and delinquents is generally studying norm-violating behavior outside of its social context. Building on Hartshorne and May's use of situational tests, the authors sought to study the major contributing variables to norm-violating behavior in a laboratory setting. Two groups of subjects were used: (1) 116 male college students; and (2) 119 male maximum security military prisoners. Five situational paper and pencil tests were administered, as well as the Minnesota Multiphasic Personality Inventory (MMPI) scale four and an inquiry sheet. Two major variables were manipulated: (1) risk of being caught; and (2) pay incentive. Deceptive behavior was assessed by the improbable achievement method. Results showed 10.3% of the students cheated, in comparison to 16.8% of the prisoners. Some variables were more signficant than others. Further discussion centered on the implications of this kind of research and on natural setting laboratory-type investigations. (TL)

The Study of Deceptive and Antisocial Behavior in the Laboratory[1]

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One of the difficulties associated with the study of crime and delinquents has been the acceptance of conviction as the criterion of criminality. With a conviction, individuals who have been found guilty of crimes are compared on some psychological dimensions or attributes, to groups of presumed non-offenders. When differences are found, and in most cases they are, the inferential leap is often made that these are characteristics that either cause or are associated with criminal behavior.

We would take issue with this procedure. The use of a conviction criterion does not necessarily refer to specific behavior. Conviction is a legal definition and a distinctly different entity than "being" criminal or exhibiting criminal behavior. This procedure does not take account of normal criminality in the general population nor does

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it control the effects of arrest, trial and incarceration on those who are caught.

In this approach offenders tend to be grouped and studied by the type of offense conviction. For example, Megargee and Mendelsohn (1962) compared offenders convicted of assault to offenders convicted of non-assaultive crimes on MMPI scales and came to conclusions about the validity of the scales based on this procedure. Yet we have reason to believe that single offenses, in terms of psychological life space and time of individuals, represent very small segments and not necessarily representative samples of their behavior repertoire. This approach has the deficit of making inferential mountains out of behavioral molehills.

Still another approach has been to study the antisocial behavior in isolation without the complex norm-violating situation in which it naturally occurs. Thus Buss' aggression machine (Buss, 1961), Milgrim's study on the simulated delivery of shock in the laboratory (Milgrim, 1963), Denner's and other research on simulating the accidental observation of the crime or crisis occurring (Denner, 1968; Latané and Darley, 1968) represent this separation of key psychological factors. These studies have the desirable attribute of making possible study of the key psychological factors with which the investigators were concerned. However, they also suffer from

pulling the behavior out of its situational context. That is, the studies typically do not investigate the norm-violation or law-violation aspect of the occurrence of aggression or other behaviors under study.

One particular area of deviant behavior that has been subjected to much investigation is that of student cheating. One method that has appeared frequently has been the "What if?" technique. The student is asked "What if you had this given set of opportunities, nasty attitudes on the part of the instructor, unfairness of the course or other similar incentives to cheat?" (Steininger, 1968; Frymier, 1960; Knowlton and Hamerlynck, 1967). However, these studies have been attitudinal and have investigated not the behavior, but only hypothetical questions.

Jacobson, Berger and Millham (1970) have used an improbable achievement measure of behavioral cheating and reported that men did not cheat significantly and that there was a relatively high rate of cheating among women who were high on both self-satisfaction and need for approval. Aronson and Mettee (1968) have found that subjects who have had low levels of self-esteem experimentally induced show higher levels of dishonest behavior. This contradicts the Jacobson, Berger and Millham results in terms of low self-esteem being associated with dishonest behavior in the Aronson study and high self-satisfaction with dishonest behavior in the Jacobson et al. study.

One set of procedures for studying antisocial, deceptive, and norm-violating behavior under controlled conditions was developed by Hartshorne and May (1928) over forty years ago and since largely ignored. Hartshorne and May utilized twenty-two situational tests to investigate honesty and character development in grade school pupils. They studied the relationship of a number of biographical and social factors to honesty in over 8,000 students and reported among other things on the effects of religious and moral education in their subjects.

The purposes of the present study were to build on the Hartshorne and May definitions of norm-violating behaviors, including offenses against property, namely money, and to begin a series of systematic studies of major contributing situational variables in this particular laboratory setting. We sought to look at "normal" criminality as well as criminality among offenders, to utilize the actual relevant behaviors and to include the norm-violating aspect of the situation. The present study represents a first step toward developing a schema for systematically studying a variety of antisocial behaviors under controlled conditions.

METHOD

There were two groups of subjects on whom data was collected. The first was 116 male college students who met course requirements for an introductory psychology course by volunteering to participate

in the experiment. The second group was 119 prisoners at a maximum security military prison. All of the prisoners had been convicted by court martial and were serving sentences of six months or more. The largest number were convicted for A.W.O.L. and desertion charges.

The test materials consisted of five situational paper and pencil tests taken from the Hartshorne and May reports. The first presented the subjects with a large rectangle divided into four hundred small boxes. The instructions were: "Put a dot in each square beginning at the top working from left to right as fast as you can. Speed counts--you have fifteen seconds." The second test consisted of forty-eight 6-digit numbers. Subjects were instructed to draw a line beneath every number four. They were given ten seconds. The third test was a list of thirty-six pairs of 6-digit numbers in four columns. The subjects were instructed to look at each pair of numbers, making a cross after every pair where the two numbers were not alike. They were given twenty seconds. The fourth test was composed of 120 pairs of single digit numbers. The instructions were to add each pair as fast as possible. Subjects were given forty seconds. The fifth test consisted of an oval six inches high and four inches across. Five numbered circles of varying sizes were located at different points in the perimeter of the oval.

Subjects were instructed: "Put the point of your pencil at the cross on the foot of the oval. Study the page for five seconds. Then shut your eyes and put the figure '1' in each circle, taking them in order. For the second trial put the figure '2' in each circle." The maximum score for both trials was ten.

The improbable achievement method was used in assessing the deceptive behavior. That is, in each case normative data were collected and a normal distribution observed for achievement on each of the tests. Subjects that were observed to fall well above the normal distribution were identified as demonstrated cheaters.

With the college students there were four groups of subjects. The factors of risk and pay incentive were studied. Risk of being caught varied by having the experimenter either stay in the room while the tests were taken or leave the room with the instruction that she would be at the end of the hall and available for questions. The incentive was varied by offering the subjects five dollars if they were able to obtain a score higher than 125 on the first test in the series. The highest point on the normal curve in this test was at 65. Thus there were four conditions for the college students--no pay, low risk of being caught; no pay, high risk; pay, low risk; pay, high risk. Half of the students were administered tests in groups of three and the other half were tested in two larger groups

of no pay, high risk and pay, low risk, and group size effects were studied. This portion of the data collection is incomplete since large group testings for the remaining conditions have yet to be administered. Of course the student data interpretation is limited accordingly.

A similar model was used with the prisoners except that the testing situation and incentive condition were changed.

The prisoners took the tests as part of a screening process designed to classify them, and aid in making recommendations for parole and clemency. In other words, they took the tests within an evaluative test battery which they expected would affect their future. They were told the tests dealt with psychological skills, such as memory, hand quickness, and speed and accuracy of perception and that these skills have been found to be important in success in many areas of life activities. They were further told that "Studies have shown that relatively few people are capable of achieving a score higher than 125 on test one in this booklet. Those who score beyond this are typically able to act and think decisively and quickly. Scores above 125 in this test also have been shown to be found in generally intelligent and capable people." In the low risk condition with both prisoners and students they were asked to count their own scores and enter the total score for each test on the front of their answer sheets.

In addition, MMPI scale 4 (Pd) was administered to all subjects.

Thus the subjects were evaluated on this one psychological dimension and were put in a situation in which risk of being caught and incentive for performing the deceptive act were varied.

All prisoner subjects and the 68 students in the large group administrations were given an inquiry sheet following completion of the task itself. In this inquiry sheet four questions were posed: (1) Please write your ideas about the purpose of this study: What was it trying to do? (2) Were you tempted to, thinking of, or did you actually use extra time or peek, or in some way not follow the rules for this study? (3) Make an estimate of how well you did on the test booklet as compared to others who took it here today. (4) Generally, do you, or have you, cheated on exams or studies when you were in school or at other times you have taken tests? When, how, why?

RESULTS AND DISCUSSION

The people who were found to score beyond the upper end of the normal distribution on any of the tests were identified as demonstrated cheaters. Twelve (10.3%) of the 116 college students were identified as demonstrated cheaters; twenty (16.8%) of the 119 prisoners were found to be demonstrated cheaters (see Table 1).

In the inquiry analyses 11.7% of the college students and 33.6% of the prisoners admitted cheating. Half of the admitted student cheaters and 29 of the 40 admitted prisoner cheaters (72.5%) did not demonstrate the cheating in the analysis of the improbable achievement data. This finding indicated either that the subjects increased their scores to levels higher than honest achievement but still not to levels above the normal distribution; or that they acknowledged cheating when they simply did not.

Among the twelve student demonstrated cheaters only one falsified his score sufficiently to receive the five dollar bonus. The others falsified their scores well beyond the normal distribution and in some cases one or two points below the score necessary to receive the cash bonus. We have labeled these eleven individuals who failed to cheat sufficiently to get paid as self-esteem cheaters. That is, these are individuals whose motives for cheating were based on needs to look or feel successful rather than a simple desire to receive the cash bonus. If one were to draw a moral about these particular subjects, instead of observing that crime pays, we might state that crime makes you feel good.

The effects of risk and incentive were compared for the college students and the prisoners (see Tables 2 and 3). Some marked differences appeared. The differences were evaluated by t-test (see Table 4) and the number of significant t-tests well exceeded

the incidence expected by chance. In the college students the risk and incentive conditions did not seem to bear as much relationship as group size to the cheating criteria. However, the demonstrated cheaters were found to have a significantly higher mean on MMPI scale 4 than the mean for all subjects. No difference was observed between the admitted cheaters and the remaining student subjects.

When the same comparisons were made among the prisoners, no significant differences were present on the scale 4. Significantly more deception was found in low risk compared to high risk groups. Incentive alone made little difference but there was a positive and significant cumulative effect of low risk and high incentive leading to deception. In other words, the prisoners were not overly motivated by the prospect of appearing to have high intelligence and ability, success in life activity, and ability to think decisively and quickly nor were the students motivated especially by the five dollar bonus, per se. However, given the freedom to deceive apparently unsupervised and undetected, the prisoners did take advantage of this opportunity. The students did not.

In addition, 60.5% of the 119 prisoners reported that they had cheated previously, the majority in school. As expected, the prisoners scored significantly higher on scale 4 of the MMPI than the students.

Some comparisons may be drawn between the present studies and the Hartshorne and May studies. In Hartshorne and May the ranges were extremely large, but from 22% of their high school subjects to 64% of their eighth grade subjects were found to have cheated on similar pure speeded tests. In the present results 10.3% of the college students and 16.8% of the prisoners did indeed demonstrate cheating behavior.

One implication of the present study is that earlier results on attitudes and reported cheating in the "What if?" format should be reexamined. Our finding was that people who admitted cheating did not necessarily prove themselves to be cheaters nor did people who were demonstrated cheaters always admit it. Thus the perceptions of cheating in "What if?" studies should be scrutinized and perhaps replicated utilizing actual behavior of the subjects.

There are some questions to be posed in this kind of research. First, are we justified in assuming that these laboratory studies are related to natural behaviors? We suggest that there is indeed a feeling of "getting away with it" when there is no observer present and the subject apparently is successful. In all such studies, the closer to real life the situational task is, the potentially better the data. While the present investigation was limited to the norm-violating behaviors of cheating for money or deceptions

to be evaluated more positively, we suggest that the actual limits are bounded only by the ingenuity of the investigators. There are a number of extensions of the present research that might be conducted.

One possibility would be to use urban ghetto liquor stores as laboratories for investigating crimes against property. That is, the laboratories could systematically vary hours, handling of cash, displays, personnel characteristics, law enforcement patrolling, and other situational factors. Attempted crimes could be observed under these different circumstances. There are imposing ethical and legal problems in this; nevertheless, to make such studies realistic one choice is to move them into real life situations where naturalistic observation as well as experimental variation may be utilized.

Another method is to place an advertisement in the newspaper soliciting thieves, burglars, forgers, counterfeiters and other criminals as paid subjects for experimental study. This would permit a more extensive study of the dimension of admitted offenders that we have noted. Furthermore, it may well provide an opportunity for crime prevention parallel to that used by Schwitzgebel (1965) paid for experimental participation and treatment.

Dimensions we are planning to investigate include defining in an organized and more full way conditions under which the norm-violating occurs, the study of cheating versus strong impulse to do so, and finally the confrontation by authorities following the antisocial act. The latter will look at how individuals respond both as a measure of their social skill and general reaction to authority figures in this kind of "being exposed" situation.

SUMMARY

We have studied one particular form of antisocial or deceptive behavior, the falsifying of materials on pure speeded tests. The criterion was improbable achievement, modeled after the Hartshorne and May studies. It was found that cheating occurred in 10.3% of 116 male college students and 16.8% of 119 male prisoners. A substantial number of subjects admitted to cheating although the test results did not demonstrate their having cheated. It is suggested that this model might be expanded to provide a format for systematic study of major variables hypothesized to be related to norm violation and criminal behavior.

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TABLE 1

Means and Standard Deviations of Admitted and Demonstrated Cheaters

		PRISONERS								STUDENTS					
		ALL Ss	AC	DC	AC + DC	AC- DC	DC- AC			ALL Ss	AC*	DC**	AC + DC	AC- DC	DC- AC
	N	119	40	20	11	29	9		N	116	8	12	4	4	3
Test 1	$\bar{X}$	47.1	53.7	76.6	78.6	44.3	74.1	Test 1	$\bar{X}$	54.8	76.4	83.8	83.5	69.2	68.3
	SD	23.6	8.0	40.6	32.6	12.8	48.5		SD	17.1	14.8	28.7	18.0	3.3	14.9
Test 2	$\bar{X}$	15.2	16.6	21.8	21.2	14.9	22.6	Test 2	$\bar{X}$	14.0	15.6	15.2	15.5	15.7	16.3
	SD	6.3	5.1	5.6	5.3	3.7	5.8		SD	3.3	4.0	3.5	4.9	2.7	.5
Test 3	$\bar{X}$	4.6	4.8	6.2	5.9	4.4	6.6	Test 3	$\bar{X}$	4.5	4.5	4.9	4.7	4.2	5.0
	SD	1.7	1.7	1.9	1.9	1.5	1.9		SD	1.7	1.1	.9	1.3	.8	.8
Test 4	$\bar{X}$	38.5	39.5	56.9	50.0	35.5	65.3	Test 4	$\bar{X}$	46.1	51.7	59.2	55.5	48.0	56.7
	SD	17.4	17.0	28.9	25.3	9.8	30.7		SD	12.0	16.5	19.3	20.9	9.1	24.4
Test 5	$\bar{X}$	4.3	4.8	5.5	5.8	4.4	5.2	Test 5	$\bar{X}$	3.3	2.7	2.6	2.5	3.0	3.3
	SD	1.7	2.0	1.9	1.9	1.0	1.7		SD	1.6	.8	.9	.9	.7	.5
4-Pd	$\bar{X}$	22.5	22.9	20.3	19.1	24.4	21.9	4-Pd	$\bar{X}$	18.7	18.6	21.8	20.5	16.7	22.3
	SD	6.5	5.9	4.9	3.0	6.0	6.2		SD	5.1	7.4	5.0	6.6	7.6	2.5

* AC were obtained from 2 group administrations with a total of 68 Ss.

** DC were obtained from the entire student sample (N=116).

AC = Admitted Cheaters

DC = Demonstrated Cheaters

AC + DC = Admitted Cheaters who were also Demonstrated Cheaters

AC - DC = Admitted Cheaters who were not Demonstrated Cheaters.

DC - AC = Demonstrated Cheaters who were not Admitted Cheaters

TABLE 2

Means and standard deviations by conditions for student subjects.

Condition[1]	N	$\bar{X}$	SD	Condition[1]	N	$\bar{X}$	SD
		Test 1					Test 4
1	13	51.5	9.3	1	13	44.5	8.1
2	12	47.9	12.0	2	12	42.5	14.6
3	11	46.4	12.4	3	11	52.5	13.6
4	14	64.7	31.8	4	14	43.5	11.3
5	33	60.9	15.5	5	33	47.1	14.5
6	34	51.3	9.8	6	35	46.1	7.5
		Test 2					Test 5
1	13	13.6	3.2	1	13	4.1	2.1
2	12	13.6	4.6	2	12	2.5	1.0
3	11	14.1	2.4	3	11	2.8	1.3
4	14	14.4	3.2	4	14	2.5	.7
5	33	15.1	4.1	5	33	3.5	1.5
6	33	13.1	2.3	6	35	3.5	1.9
		Test 3					Pd
1	13	5.4	1.3	1	12	19.6	3.7
2	12	4.5	1.1	2	12	19.8	6.2
3	11	3.6	.9	3	11	18.4	6.1
4	14	4.4	1.4	4	14	19.5	3.6
5	33	4.9	2.5	5	33	19.2	5.5
6	33	4.2	1.2	6	35	17.5	4.5

[1]Condition 1 = Low risk of being caught, low incentive to cheat.
" 2 = High risk, low incentive.
" 3 = Low risk, high incentive.
" 4 = High risk, high incentive.
" 5 = Low risk, high incentive, large group.
" 6 = High risk, low incentive, large group.

TABLE 3

Means and standard deviations by conditions for prisoner subjects.

Condition[1]	N	$\bar{X}$	SD
			Test 1
1	30	39.5	11.0
2	28	42.6	16.0
3	29	49.6	31.7
4	32	56.1	25.8
			Test 2
1	30	12.9	3.7
2	28	13.0	4.8
3	29	16.9	5.2
4	32	17.9	8.3
			Test 3
1	29	4.0	1.4
2	27	4.2	1.7
3	28	4.8	1.7
4	30	5.4	1.7
			Test 4
1	29	34.2	12.1
2	28	34.3	11.9
3	29	42.7	21.7
4	32	42.5	19.1
			Test 5
1	30	4.1	1.1
2	28	4.6	2.0
3	29	4.1	1.6
4	32	4.2	2.0
			Pd
1	30	22.4	4.6
2	28	22.0	8.5
3	29	22.8	6.1
4	32	22.6	6.4

[1]Condition 1 = Low risk of being caught, low incentive to cheat.
" 2 = High risk, low incentive.
" 3 = Low risk, high incentive.
" 4 = High risk, high incentive.

TABLE 4

t-tests between condition means[1]

PRISONERS

Condition Comparison[2]	Measuring	Test 1	Test 2	Test 3	Test 4	Test 5	Pd
2 > 1	Incentive	.05					
3 > 1	Risk		.01	.05	.05		
4 > 1	Risk & Incentive	.01	.01	.01	.05		
3 > 2	Risk & Incentive		.01		.05		
4 > 2	Risk	.01	.01	.01	.05		

STUDENTS

Condition Comparison[2]	Measuring	Test 1	Test 2	Test 3	Test 4	Test 5	Pd
1 > 2	Risk					.05	
1 > 3	Incentive			.01			
1 > 4	Risk & Incentive					.05	
1 > 5	Incentive & Group Size			.01			
5 > 3	Group Size	.01		.05			
5 > 4	Risk & Group Size					.01	
5 > 6	Risk & Incentive	.01	.05				
6 > 4	Incentive & Group Size					.01	

[1]Only the significant condition comparisons are listed.

[2]Condition 1 = Low risk of being caught, low incentive to cheat.
" 2 = High risk, low incentive.
" 3 = Low risk, high incentive.
" 4 = High risk, high incentive.